



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200



D119-796-141TRN
Job Sheet 166879



Part No: D119-796-141TRN

Job Qty: 1 ea

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 10/19/17

Job Tracking No:

Due Date: 10/31/17

Created By: Victoria Michaud-Febrille

Type: Stock

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea		10/30/17	0.00	0.00	Start Up Crosstubes	
100	Mori Seiki	1 pcs		10/30/17	1.99	1.52	Mori Seiki TL-40	PMP
110	QC	1 pcs		10/30/17	0.00	0.00	QC21	PMP
120	Mori Seiki	1 pcs		10/30/17	0.00	1.52	Mori Seiki TL-40	PMP
130	QC	1 pcs		10/30/17	0.00	0.00	QC21	PMP
140	QC	1 pcs		10/30/17	0.00	0.00	QC8	
145	Crosstubes	1 pcs		10/30/17	0.00	0.33	Crosstube	
150	HandFXtube	1 pcs		10/31/17	0.00	0.40	Crosstube	
160	QC	1 pcs		10/31/17	0.00	0.00	QC7	
170	Packaging	1 pcs		10/31/17	0.00	0.00	Packaging3	
180	QC21-FG	1 Ea		10/31/17	0.00	0.00	QC21	

Part Op 100 - 1-Fill tube with sand & install plugs on both ends as per Folio FB316 2-Turn first side as per Folio FB316 3-Blend Descriptions: transition lines only, **do not sand whole tube**: FOLIO REV: AA DWG REV: H *Use mill bastard file, brush file repeatedly with file card. *Do not use sandpaper coarser than 320 grit.

120 - 1-Turn second side as per Folio FB316 2-Blend transition lines only, **do not sand whole tube**: 3-Remove sand and plugs 4- scribe batch # and part # as per dwg

145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

150 - 1- handfinish X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED SCOTCH BRITE

170 - LOCATION : LG014

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D6024-103	1	42	0	0

B150732

Part Specifications

Specifications could not be found.

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____ Engineering ☐ Quality ☐ Other ☐		1270 Aberdeen Street Hawkesbury, ON K64 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com ed Wrong Dimensions nder tolerance orrect st/Missing ved	
		Coordinator approval / Supervisor Verification	
Work Order: _____ Part No. _____ NCR No. _____ Engineering ☐ Quality ☐ Other ☐		1270 Aberdeen Street Hawkesbury, ON K64 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com ed Wrong Dimensions nder tolerance orrect st/Missing ved	
Coordinator approval / Supervisor Verification		Coordinator approval / Supervisor Verification	
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Coordinator approval / Supervisor			

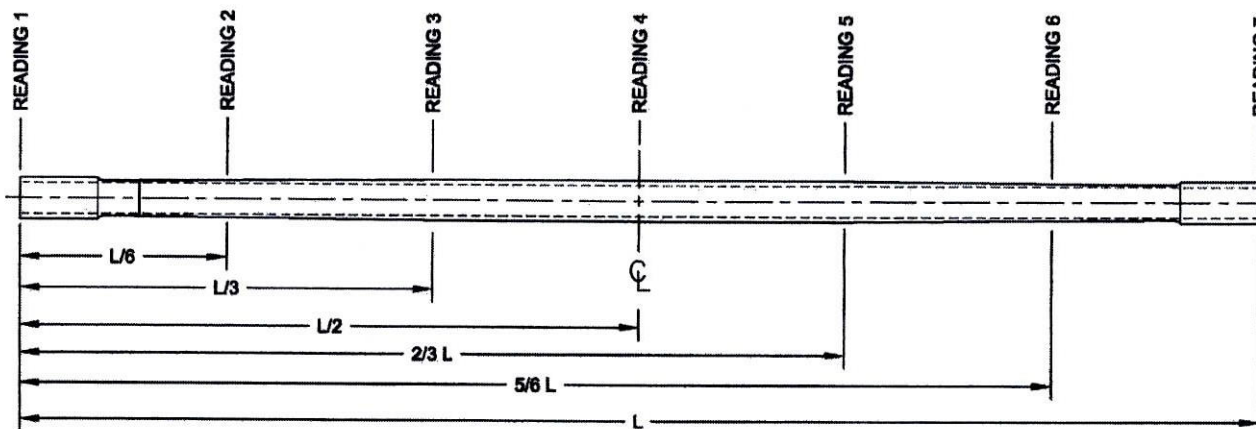
DART AEROSPACE LTD	Work Order: 166879
Description: Crosstube Assembly (AW119 MKII Fwd)	Part Number: D119-796-141TRN
Inspection Dwg: D119-796-141 Rev: H	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	6.00	+/-0.030	5.914		✓	VERNO8	• 6" IS TO
	2.516	+/-0.005	2.519	✓			INTERSECTION
	2.333	+0.005/-0.000	2.338	✓			OF 2 RADS
	2.333	+0.005/-0.000	2.338	✓			• STILL GOOD
	2.408	+0.005/-0.000	2.413	✓			ENDS OF TUBE
	2.502	+0.005/-0.000	2.507	✓			ARE TO BE
	2.596	+0.005/-0.000	2.599	✓			CUT.
	2.596	+0.005/-0.000	2.600	✓			
SIDE B	6.00	+/-0.030	5.918		✓	VERNO8	
	2.516	+/-0.005	2.519	✓			
	2.333	+0.005/-0.000	2.338	✓			
	2.333	+0.005/-0.000	2.338	✓			
	2.408	+0.005/-0.000	2.413	✓			
	2.502	+0.005/-0.000	2.507	✓			
	2.596	+0.005/-0.000	2.599	✓			
	2.596	+0.005/-0.000	2.600	✓			
	102.26	+/-0.020	102.26	✓		TAPE	

DART AEROSPACE LTD	Work Order:	
Description: Crosstube Assembly (AW119 MKII Fwd)	Part Number:	D119-796-141TRN
Inspection Dwg: D119-796-141 Rev: H		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	249	262	260	257	.013	0.030"
READING 2 L= 17.043	179	179	175	179	.004	
READING 3 L= 34.087	262	271	270	263	.009	0.063"
READING 4 L= 51.13	290	299	301	294	.011	
READING 5 L= 68.173	259	262	276	273	.017	
READING 6 L= 85.217	170	159	173	186	.027	0.030"
READING 7 L= 102.26	247	262	261	249	.015	

Calibration Result

Actual Block Thickness: 100 - 400

Sitescan 250 Measured Thickness: 100 - 400

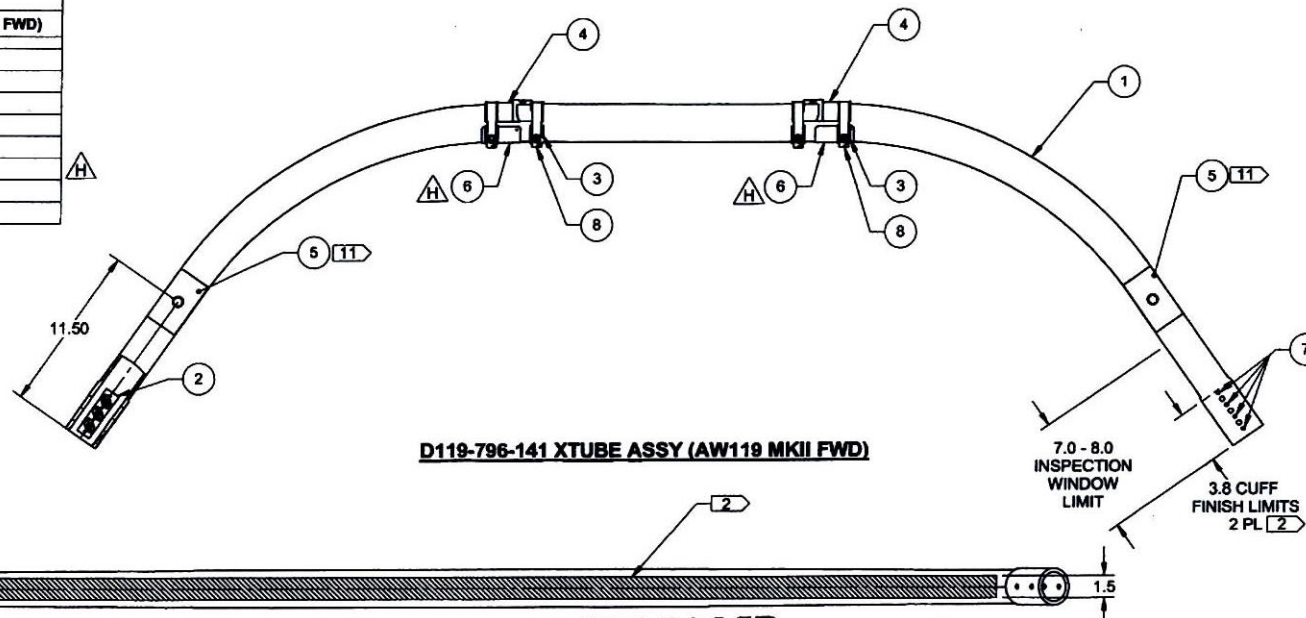
Measured by:	PMP
Date:	2017-10-24

Audited by:	
Date:	

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
A	15.04.14	New Issue (P/O D119-796-101)	KJ	
B	15.05.14	Tolerances revised per Dwg Rev G	KJ	
C	16.05.27	Dwg Rev updated	KJ	
D	16.09.13	Tolerance revised for Reading 3, 6 & 7	KJ	

ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-141	XTUBE ASSY (AW119 MKII FWD)
1	1	D119-796-141BND	CROSSTUBE, FWD
2	4	D2873-043	RADIUS BLOCK
3	4	D5123-3	CLAMP CUSHION
4	2	D5124-1	FWD SUPPORT
5	2	D5152-041	FWD POST MOUNT ASSY
6	2	D5305-1	SHIM
7	16	CR3212-4-08	RIVET, BLIND CSK
8	4	MS21920-24	CLAMP



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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 166879

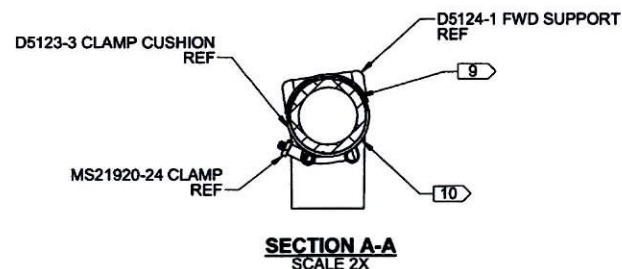
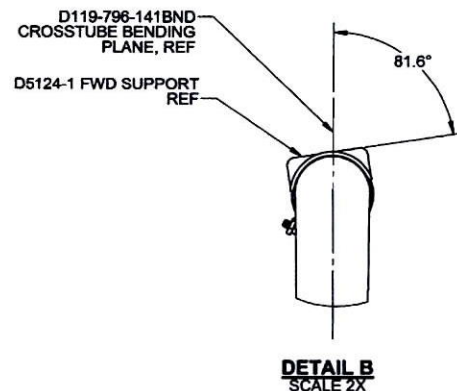
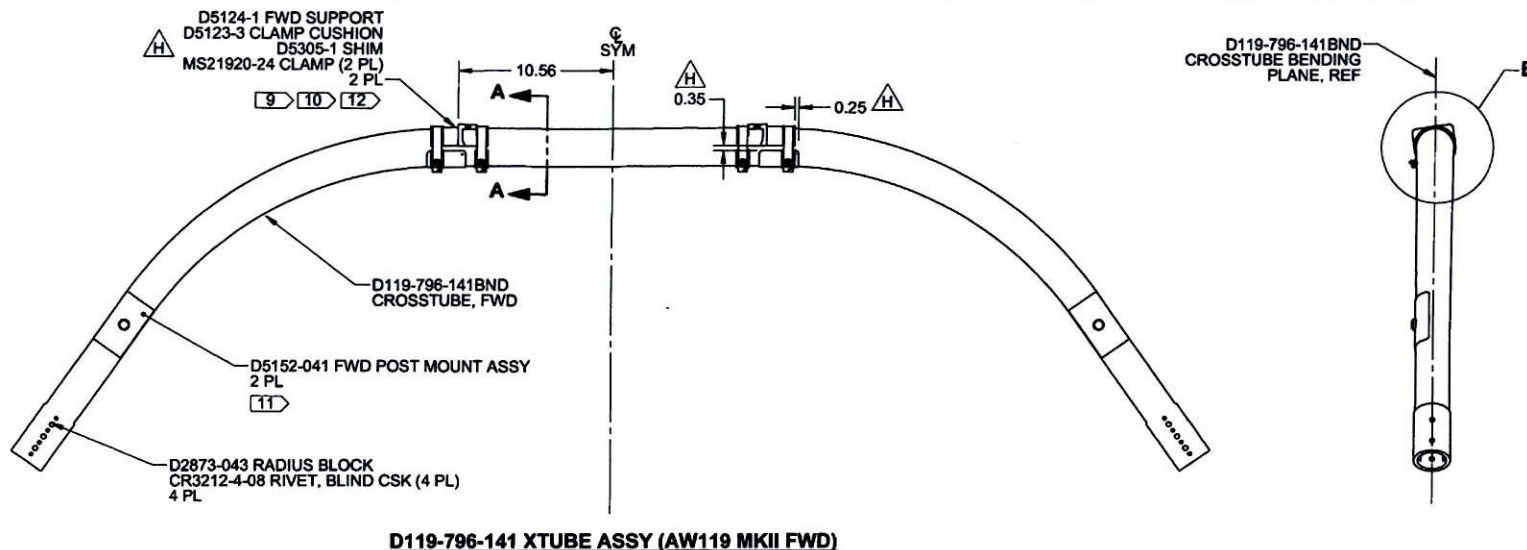
LM 17/10/19

RELEASED
2015-11-04
EW 15-142

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY MATTE CLEAR COAT PER QSI 005 4.2
MASK D5124-1 FWD SUPPORTS, D5305-1 SHIMS AS WELL AS UNDERSIDE OF CROSSTUBE AS SHOWN (B3-1, HATCHED AREA).
PAINT OUTSIDE PER DART QSI 005 4.2 AFTER APPLYING CLEAR COAT
DO NOT APPLY FINISH (PAINT OR CLEAR COAT) TO CUFFS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-141" AND BATCH NUMBER ON INSIDE OF CUFF PER QSI 044 6.4
- 7) WEIGHT: 18.54 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS SCRATCHES, NICKS OR DENTS.
DEFECTS UP TO 0.005 MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) PRIOR TO FINISHING, ABRASE MATING SURFACES OF D5124-1 FWD SUPPORTS AND CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. APPLY A 0.1 MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE D5124-1 FWD SUPPORTS AND INSTALL AT AN 8.4° OFFSET FROM THE CROSSTUBE BENDING PLANE. INSTALL THE MS21920-24 CLAMPS AND D5123-3 CLAMP CUSHIONS WHILE WET.
- 10) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY, THE NUT IS FACING AFT AND HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-041 WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. INSTALL D5152-041 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. LOCATE D5152-041 USING TOOL DT10089.
- 12) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5305-1 SHIM WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'NWIPE DEGREASER. INSTALL D5305-1 SHIM WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. USE ADDITIONAL TEMPORARY MS21920-24 CLAMP TO APPLY CLAMPING PRESSURE FOR 72 HOURS.

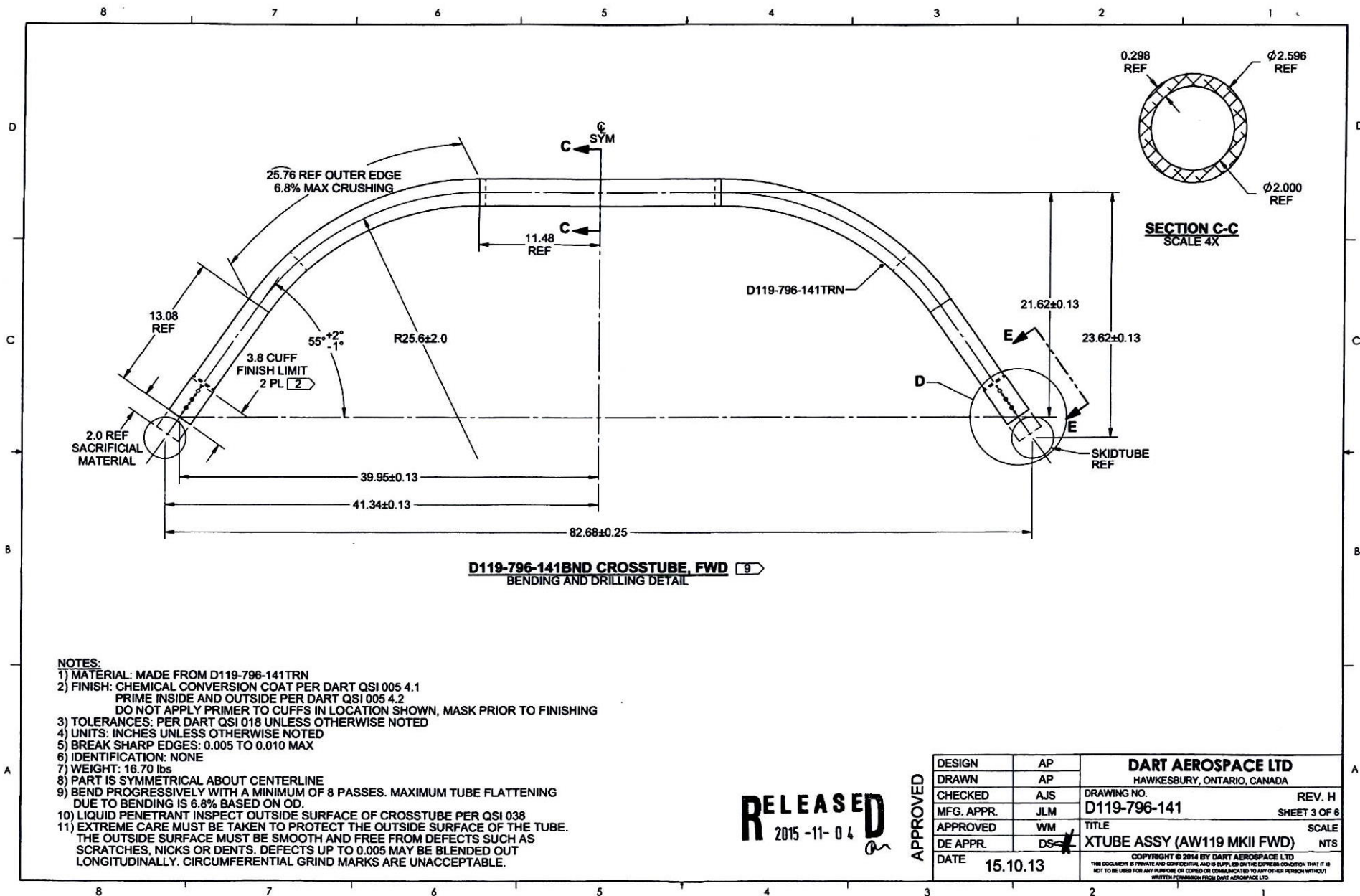
REV.	DESCRIPTION	BY	DATE
H	ADD D5305-1 SHIM, D6024-103 WAS D6005-103, D5124-1 NOW INSTALLED ON PRIMER	AP	15.10.13
G	FINISHING ORDER ADJUSTED, CR3212-4-08 WAS -.07, CUFF DIA TOLERANCE INCREASED TO +/- 0.005	AP	15.04.24
F	REMOVED PRIME/ PAINT ON CUFFS, 2.516 WAS 2.500 (C8-9)	AP	15.02.03
E	D5152-041 FWD STEP POST ASSY WAS D5150-1 STEP POST, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER, ANGLE (B7-2) DIMENSIONED FROM NEW DATUM	DB	15.01.15
D	ADD D5150-1 STEP POST (2X), MOVED INSPECTION WINDOW DETAIL TO SHEET 1, MODIFIED NOTES ON SHT 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WERE CR3212-4-09, 7.5 DEG CUFF ANGLE OFFSET REMOVED (SHT 3), CUFF DIAMETER ON D119-796-141TRN REDUCED TO 2.500, ADDED INSPECTION WINDOW (B7-3), ADDED SHT 4	AP	14.10.23
B	ADDED D2873-043 RADIUS BLOCK, CR3212-4-08 RIVETS, ADDED SKIDTUBE REFERENCE FOR LOCATING CUFF HOLES, RE-ORGANIZED NOTES AND REMOVED REDUNDANT INFORMATION	AP	14.09.02
A	NEW ISSUE	AP	14.08.09
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 1 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
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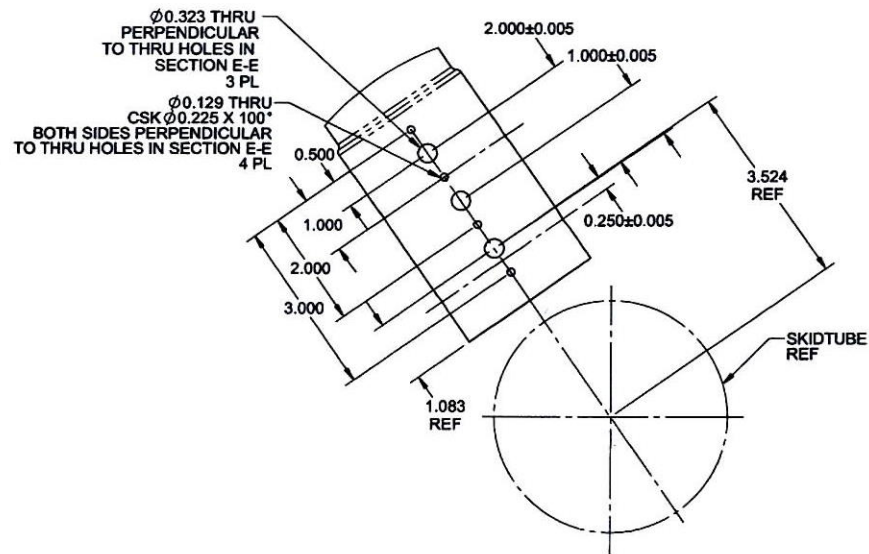
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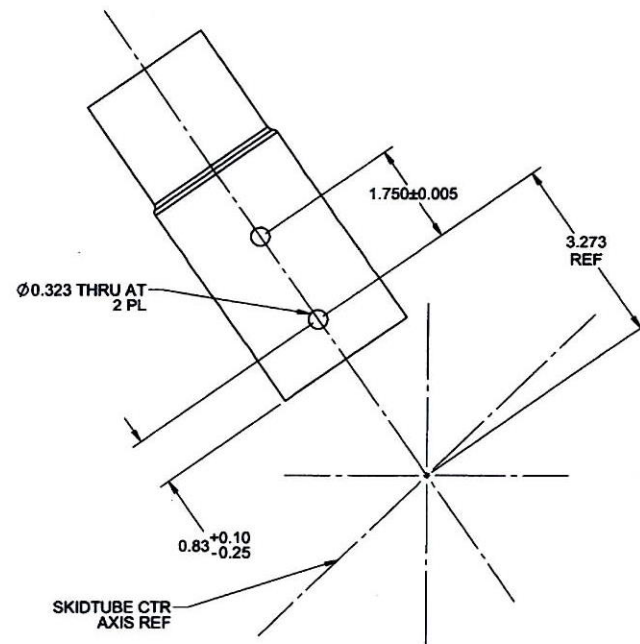
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DRAWN	AP	DRAWING NO.	REV. H
CHECKED	AJS	D119-796-141	SHEET 2 OF 6
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8 7 6 5 4 3 2 1



VIEW D
SCALE 4X



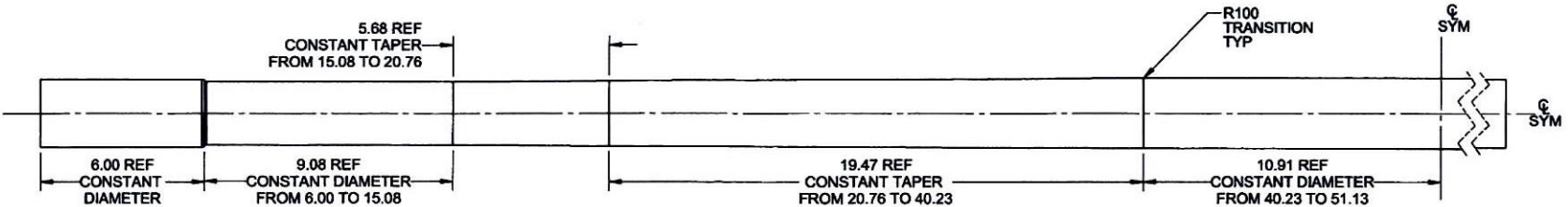
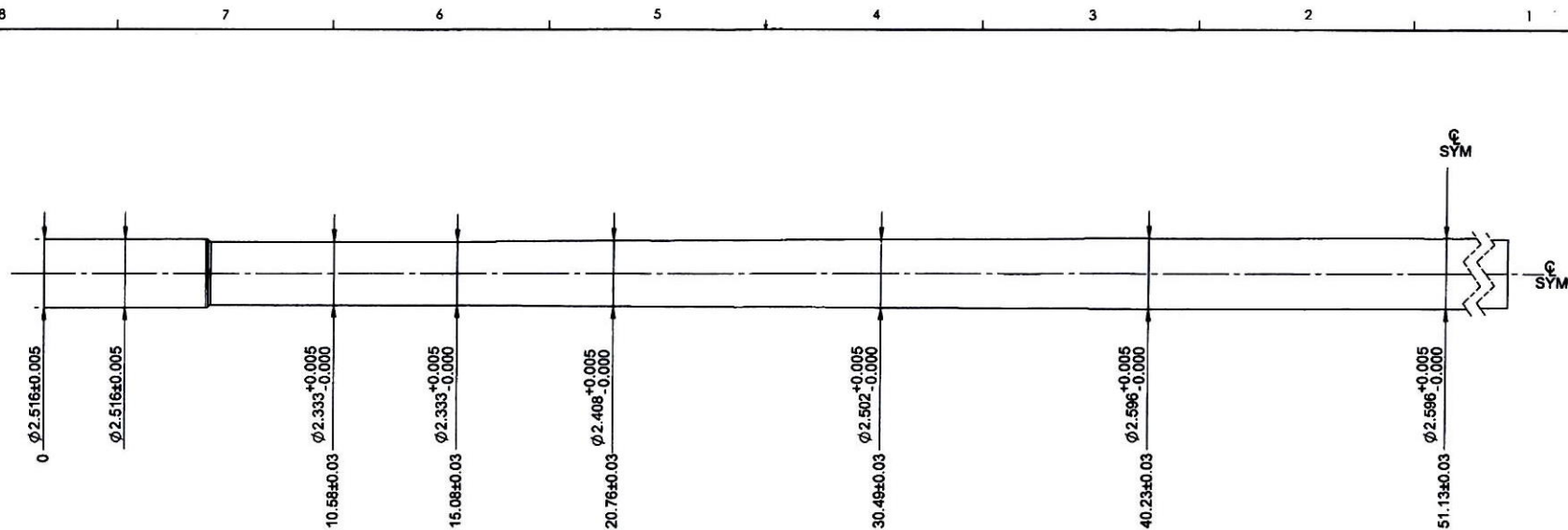
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MFG. APPR.	JLM	D119-796-141	SHEET 4 OF 6
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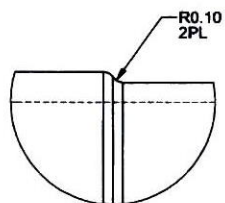
D119-796-141TRN CROSSTUBE, FWD

- NOTES:**
- 1) MATERIAL: MANUFACTURE FROM D6024-103 (PREFERRED) OR D6005-103
FINISHED LENGTH = 102.26 ± 0.020 (BEFORE BENDING/TRIMMING)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 16.70 lbs
 - 8) PART IS SYMMETRICAL ABOUT CENTERLINE

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DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 5 OF 8
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DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
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D119-796-141TRN CROSSTUBE, FWD
 SUPPLEMENTAL VIEW: NOMINAL WALL THICKNESS



DETAIL F
 SCALE 2X

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
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 AS REQUIRED
 FOR TOOLING

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C
 SYM

C
 SYM

0.258 REF
 NOMINAL WALL

0.167 REF
 NOMINAL WALL
 10.58±0.03

0.167 REF
 NOMINAL WALL
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